

U.S. Patent Application No. 10/047,440
Request for Reconsideration dated August 4, 2003
Response to Office Action dated February 5, 2003

REMARKS

Reconsideration and continued examination of this application are respectfully requested.

In the Office Action, the Examiner sets forth the reasons for maintaining the Restriction Requirement. Based on the comments provided by the Examiner, it will still appear that no serious burden on the part of the Examiner would exist with respect to examining more than one group as identified by the Examiner. However, the Examiner has indicated that the Restriction Requirement is made final.

At the bottom of page 2 of the Office Action, the Examiner rejects claims 36-56 under 35 U.S.C. §112, first paragraph, as containing subject matter not recited in the present application. The Examiner believes that new claims 36-56 are not described in the present application. The Examiner has requested that specific support for each limitation be pointed out in the present application. For the following reasons, this rejection is respectfully traversed.

New claims 36-56 are clearly supported in the present application as originally filed. For instance, at page 4 of the present application, calcined tantalum pentoxide powders are described having various BET surface areas. Furthermore, page 19 of the present application further describes calcined tantalum pentoxide powders which have various BET surface areas and packed bulk densities. The Examiner will note that certain BET surface areas include less than $0.75 \text{ m}^2/\text{g}$. Furthermore, at page 20 of the present application, the calcined tantalum pentoxide products are indicated as having a BET surface area of $.3$ to $3 \text{ m}^2/\text{g}$. Furthermore, various packed bulk densities are provided including greater than 3 g/cc to 4.0 g/cc as described at page 19 of the present

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application. Furthermore, the packed bulk density of greater than or equal to 3.8 g/cc is described also at page 19 of the present application. Furthermore, the powder size is described, for instance, at page 20 of the present application wherein 70% of the powder has a size of less than 1 micrometer. Other sizes are also provided at page 20. Also, the term spherical agglomerates is further used, for instance, at page 20 to describe the calcined tantalum pentoxide products. Also, the term fine single crystallites is also used, for instance, at page 20 to describe the calcined tantalum pentoxide. With respect to the fluoride content, amounts, for instance are given at page 22 of the present application with respect to tantalum pentoxide precursors in general. Furthermore, the remaining various parameters as set forth in the claims can be found throughout the present application, including claims 19-22 as well as in the examples of the present application. Accordingly, full support for these claims exists and this rejection should be withdrawn.

At page 3 of the Office Action, the Examiner rejects claims 20-25, 36, 38-46, and 48-56 under 35 U.S.C. §103(a) as being unpatentable over Eckert et al. '097 (U.S. Patent No. 5,068,097). The Examiner asserts that Eckert et al. suggests the claimed calcined tantalum pentoxide having the claimed surface area and packed bulk density. The Examiner refers to the examples and claims of Eckert et al. For the following reasons, this rejection is respectfully traversed.

As the Examiner appreciates, the present invention relates to particular BET surface areas in combination with packed bulk density and other parameters. The benefits of these various parameters are set forth in the present application. As stated at page 2 of the present application, for instance, it is desirable to have tantalum pentoxide having various particle size distributions within a desired particle size range. This desire to have such distributions are becoming even more

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desirable as the technology progresses forward.

Unlike the present invention, Eckert et al. relates to a particular tantalum pentoxide powder which attempts to remove various impurities. Very few details are provided in Eckert et al. The Examiner has not provided any precise details concerning the basis for this §103 rejection, which in and of itself would call into question establishing a prima facie case of obviousness. Eckert et al. provides details only with respect to specific surface area wherein the tantalum pentoxide of Eckert et al. has an average particle size of less than 0.5 microns as determined by SEM. In addition, Eckert et al. indicates that the tantalum pentoxide powder of Eckert et al. has a specific surface area of more than 4 m²/g. Eckert et al. does indicate that the tantalum pentoxide are calcined at certain temperatures.

As apparently appreciated by the Examiner, there is no teaching or suggestion in Eckert et al. with respect to the packed bulk density of the material. The Examiner has not explained how the Examiner came to the conclusion that the packed bulk density would be the same as the present invention. Very little information is provided in Eckert et al. to arrive at any such conclusions. As the Examiner should appreciate, there is no high correlation between BET surface area and packed bulk density or tap density. In other words, you can have a high BET surface area and still obtain a low packed bulk density and vice versa. In other words, the packed bulk density can be anywhere depending upon the material. Unfortunately, Eckert et al. is very vague with respect to the starting material as can be seen in the example. The starting material of Eckert et al. is simply described as a tantalum hydroxide, with some chemical analysis and an average particle size provided. No other information is provided. If one attempted to reproduce this example, there would be an incredible

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amount of guess work involved with respect to deciding which tantalum hydroxide was used in the experiment. It is clear however that Eckert et al. had no appreciation for the combination of properties, namely packed bulk density with BET and leading to desirable particle size distributions within desirable particle size ranges. This is clearly not shown in Eckert et al. In fact, Eckert et al. is not at all concerned with particle size distributions but is only concerned with high purity tantalum pentoxide having high BET surface areas. Eckert et al. apparently considers packed bulk density to be entirely irrelevant when in fact the present invention shows that such a parameter is relevant with respect to the goals of the present invention.

Furthermore, contrary to the Examiner's assertions, if one compared the preferred process of the present invention with the vague details set forth in Eckert et al., one can readily see numerous differences with the process which would clearly dispute the Examiner's unsupported assertion of Eckert et al. somehow inherently providing the same packed bulk density of the present invention. There is no teaching or suggestion of using a process which involves a two step process preferred in the present invention which includes mixing in a first vessel an aqueous mixture of an ammonium solution and a valve metal fluoride compound at certain temperatures and pHs and then transferring this aqueous mixture to a second vessel for mixing at the same or different conditions to continue further precipitation of the valve metal oxide. In fact, Eckert et al. is completely silent on how the tantalum hydroxide was first made except indicating that the starting tantalum hydroxide was merely precipitated from an acid metal fluoride solution by ammonium precipitation and washed salt free and calcined. There is no mention of using multiple steps to achieve the desired tantalum pentoxide precursor of the present application and then forming the calcined

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tantalum pentoxide precursor.

Thus, when Eckert et al. is reviewed in its entirety and the claims of the present application are compared to Eckert et al., it is clear that the assumptions of the Examiner are not supported by Eckert et al. To the contrary, all of the evidence points to differences between Eckert et al. and the claimed invention. Accordingly, for these reasons, this rejection should be withdrawn.

At page 4 of the Office Action, the Examiner rejects claims 20-25 and 36-56 under the judicially created doctrine of obviousness-double patenting as being unpatentable over claims 1-15 and 17 of U.S. Patent No. 6,338,832. The Examiner asserts that although the conflicting claims are not identical, they are not patentably distinct from each other because the overlap in scope of the subject matter claimed. For the following reasons, this rejection is respectfully traversed.

Claims 20-25 and claims 36-56 relate to a calcined tantalum pentoxide powder. Claims 1-15 of U.S. Patent No. 6,338,832 relate to a process for producing a valve metal oxide precursor and to ultimately forming the valve metal oxide. These process claims are quite different from the claimed invention which relate to product claims. Furthermore, claim 17 of the '832 patent recites a tantalum pentoxide powder whereas the claims of the present application recite a calcined tantalum pentoxide powder.

The applicants wish to further point out that the Examiner in the Restriction Requirement admits that the process claims to making a valve metal pentoxide are patentably distinguishable from product claims. Thus, the Examiner's rejection of the present claims in view of claims 1-15 of U.S. Patent No. 6,338,832 is not fully understood. It appears the Examiner is taking a position which contradicts the Restriction Requirement.

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In addition, a tantalum pentoxide powder may not be identical to a calcined tantalum pentoxide powder. The Examiner is respectfully requested to reconsider this rejection.

Finally, the applicants do wish to inform the Examiner that a supplemental Information Disclosure Statement was filed February 18, 2003.

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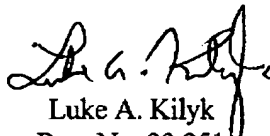
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CONCLUSION

In view of the foregoing remarks, the applicants respectfully request reconsideration of this application and the timely allowance of the pending claims.

If there are any other fees due in connection with the filing of this response, please charge the fees to Deposit Account No. 03-0060. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such extension is requested and should also be charged to said Deposit Account.

Respectfully submitted,


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